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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,083	03/13/2001	Katsutoshi Nosaki	107348-00096	9107

7590

01/31/2002

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EXAMINER

PARSONS, THOMAS H

ART UNIT	PAPER NUMBER
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1741

6

DATE MAILED: 01/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-4

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/804,083	NOSAKI ET AL.	
	Examiner	Art Unit	
	Thomas H Parsons	1741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga et al. (5,667,647), and further in view of Dankese (4,243,508).

Claim 1: Suga et al. disclose an electrolytic apparatus comprising a plurality of electrolytic cells each having an ion exchange film, an anode, and a cathode, the anode and cathode being arranged on opposite sides of the ion exchange film, respectively, the electrolytic cells being developed on a hypothetical plane and electrically connected in series to one another (Figure 1(A) showing an electrolytic cell having an ion exchange film 3, electrodes 7 of positive (anode) and negative pole (cathode) and vertically oriented on a horizontal plane; Figure 3 showing a plurality of electrolytic cells connected in series; col. 1:10-27; col. 1:56 through col. 2:4; col. 3: 6-8 and 53-58).

Suga et al. do not disclose a solid polymer electrolyte membrane.

Dankese discloses a solid polymer ion exchange membrane for use in water electrolysis cells (col. 1:13-35 which discloses well known membranes sold under the trademark NAFION).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the solid polymer electrolyte membrane of Dankese for the ion exchange film of Suga et al. because both are concerned with the electrolysis of water and Dankese teaches an improved solid polymer electrolyte membrane that would have exhibited excellent physical characteristics (e.g., reduced fluid permeability and improved passage of

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electricity) and excellent mechanical properties thereby improving the overall efficiency of the device (col. 2: 4-32).

Claim 2: Suga et al. disclose a solar cell serving as a power supply for the plurality of water electrolytic cells (Figure 3 showing solar power supply 23 comprising solar collector 24; and, col. 4: 51-61).

Claim 3: Suga et al. disclose that the anodes of the plurality of electrolytic cells are disposed on one hypothetical plane, and the cathodes of the plurality of electrical cells are disposed on another hypothetical plane, and a single water/oxygen flow path and a single hydrogen flow path are shared by the plurality of water electrolytic cells (Figure 3 showing a plurality of electrolytic cells wherein the plurality of anodes and cathodes are oriented on separate vertical planes and flow paths 13a and 13b shared by the electrolytic cells connected in series; col. 3: 59-col. 4:39).

Claims 4 and 5: The Suga et al. combination discloses a panel shaped solar cell connected to the plurality of electrolytic cells (Figure 3 showing solar collector 24 which appears to be panel shaped; and col. 4: 51-61) but does not disclose that the solar cell is superposed on the plurality of electrolytic cells.


However, it has been held that the solar cell which appears to read on that disclosed by the Suga et al. combination except with regard to the position of the solar cell is unpatentable as it has been held that claims to a solar cell which read on the prior art except with regard to the position of the solar cell were held unpatentable because shifting the position of the solar cell would not have modified the operation of the device. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950)

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H Parsons whose telephone number is (703) 306-9072. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathryn Gorgos can be reached on (703) 308-3328. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Thomas H Parsons  
Examiner  
Art Unit 1741

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January 29, 2002